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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/622,818	07/18/2003	Andrew G. Rinzler	5853-279	3026

7590 04/18/2007
AKERMAN SENTERFITT
Suite 400
222 Lakeview Avenue
P. O. Box 3188
West Palm Beach, FL 33402-3188

EXAMINER

VARGOT, MATHIEU D

ART UNIT	PAPER NUMBER
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1732

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/18/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/622,818

Applicant(s)

RINZLER ET AL.

Examiner

Mathieu D. Vargot

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 9-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>10/13/2006</u> | 6) <input type="checkbox"/> Other: _____ |

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7 and 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glatkowski et al (see col. 5, lines 12-16 for aggregation, hence interpenetration; see col. 5, lines 23-48 for resistances and hence resistivities; col. 5, line 54 through col. 6, line 4 for optical transmissions; col. 6, lines 5-22 for film thicknesses) in view of Margrave et al essentially for reasons of record noting the following.

In view of the amendment reciting resistivities and interpenetration, the art rejection has been reformatted to some extent but still remains essentially the same. In the instant case, Glatkowski et al is relied upon to teach the basic process lacking essentially the aspect of coating on a porous membrane and then removing the film, such being taught by Margrave et al. It is submitted that Glatkowski et al shows the instant resistivities and interpenetrated nanotubes—see the portions of the reference noted supra.

Applicant submits that the references are not properly combined but such is not persuasive of error for reasons that will be gone into in the next paragraph.

2. Applicant's arguments filed January 26, 2007 have been fully considered but they are not persuasive. Applicant submits that the references would not have been combined by one of ordinary skill and, apparently, even if they were, there is a sufficient indication of non-obviousness due to secondary considerations. However, neither of these arguments is persuasive. First of all, it is noted that the order of the references

has been changed, but this was due to applicant's amendment. At any rate, a rejection of A in view of B is legally looked upon as B in view of A, so that is not really an issue in this case. The bottom line is—whatever is not taught by one reference is taught by the other, and hence it is submitted that the references have been properly combined concerning their teachings. Both are directed to forming films of SWNTs. Applicant has said that Glatkowski et al does not teach interpenetrated nanotubes, while Margrave et al does. However, the instant specification does not teach exactly what such means. The only occurrences of the term “interpenetrated” are at paragraphs 14 and 29 and claim 13 in the instant disclosure. The only real indication of what “interpenetrated” would mean occurs in paragraph 29, and this is presumably that the nanotubes remain straight and have a longer length, so that they “tend to lie across one another”. However, this does not mean that the tubes have to necessarily be present in any particular concentration. In fact, the instant characterization is very similar to that disclosed at column 5, lines 12-16 of Glatkowski et al, which teaches that the SWNTs are flexible and “naturally **aggregate** to form ropes of tubes”. This formation of ropes allows for the conductivity to be high while the loading is low. Hence, it is believed that Glatkowski et al teaches interpenetrated nanotubes to the extent set forth in the instant claims and disclosed in the instant specification. Indeed, it would appear that the tubes would have to contact each other—ie, lie across each other—for the film to be electrically conductive. Applicant argues that “interpenetrated” would require a high concentration of tubes in the film and there is simply no evidence of record to support this. As it stands, Glatkowski et al meets the limitations set forth for the film and hence

is submitted to in fact constitute the formation of a film with “interpenetrated” nanotubes. Again, in view of the amendment, the order of the references has been changed so that Glatkowski et al is now the primary reference. Other than attorney argument, there is nothing of record to suggest that the combination of references would not be made. It is noted that the product of Margrave et al is not optically transparent and is much thicker than that of Glatkowski et al. However, Margrave et al is submitted to be validly applied for teaching a method of film formation which would be known to those of skill in this art. Again, other than attorney argument, there is nothing to suggest that the film formation method taught by Margrave et al would, or could, not have been used to form the films of Glatkowski et al. Two other points also need to be appreciated by applicant. Number one, the low concentration of SWNTs in the film of Glatkowski et al is a preferred embodiment—see column 5, lines 18-22. The polymer of the film is also a preferred embodiment—see column 6, line 22. A reference is not limited to only preferred embodiments. Secondly, given the high degree of transparency desired by Glatkowski et al, it is entirely possible that the reference prefers low concentrations of the SWNTs to in fact achieve this. The instant degree of transparency is very low compared to that taught in Glatkowski et al, and one of ordinary skill in this art would recognize that such would have been a natural consequence of using a higher loading of nanotubes. However, this would not make the instant claims patentable, in that one of ordinary skill in the art would recognize that the higher the loading of carbon tubes in a film, the less transparent it would become. The ultimate would presumably be the non-transparent film of Margrave et al. Finally, applicant provides an extensive listing as to secondary

considerations that would make the claims patentable. However, this is not persuasive, either. The fact that the disclosure/invention is published and that the invention may be licensed is not an indication that it is necessarily patentable, as the criteria for these are different. Also, other than applicant's comments, there is no indication that the instant claims fulfill or solve a long felt need or that there was in fact any failure of others to make the instant invention. Hence, it is respectfully submitted that the evidence provided by applicant is not a showing of non-obviousness.

3.THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

4.Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mathieu D. Vargot whose telephone number is 571 272-1211. The examiner can normally be reached on Mon-Fri from 9 to 6.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson, can be reached on 571 272-1176. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

M. Vargot
April 14, 2007


Mathieu D. Vargot
Primary Examiner
Art Unit 1732

4/14/07